Prepared by:

Department of Health & Human Services
Assistant Secretary for Preparedness and Response
Office of Preparedness and Emergency Operations
200 Independence Avenue S.W., Suite 636
Washington, D.C. 20201

About This Document

MedMap Interface

This document contains the User Guide for the US Department of Health and Human Services (HHS) MedMap Project. This document outlines the functionalities of *MedMap* and can be used as a guide for the users of the application.

Accessing MedMap

To access the main *MedMap* Login page type in the following URL: http://gis.medmap.hhs.gov/. This launch page allows the HHS GIS and MedMap user a launch point where they are able to gain useful information about the GIS services offered at HHs as well as GIS conferences and events. Information about MedMap and the GIS database will also be posted here such as any times when MedMap might go down for maintenance. From the main *MedMap* Login page, (seen below)

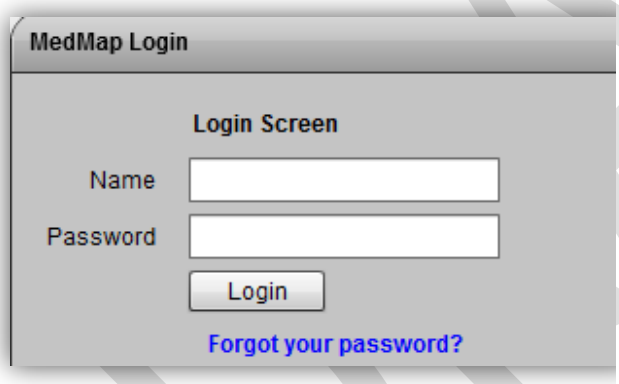
Users can login to the *MedMap* Viewer by selecting Existing Users link as shown below.

If you have a HHS domain account your will be able to use your domain password as your MedMap password. For all other users you will be assigned a password once your account has been approved and then you will have the opportunity to change it at your first log into the application.

MedMap Access

After the user has selected the *Open MedMap* link, the following login interface will appear. The user will enter their login credentials to access the *MedMap* application.

- Name is entered as First.Last with the first letter of each of the names capitalized
- Password is case sensitive (HHS domain users will use their domain password)



In the event that the user has forgotten their password, the user can select the blue link "Forgot your password?" (This is only available for those outside the HHS domain. If you have forgotten your password and are an HHS user you will need to contact the IT help desk to request your password be reset.)

If the user has clicked on the "Forgot your password?" link, this menu appears. Fill in the Name and Email fields with the correct information. The Name field needs to be done in the same format as when you are logging in and the Email is all lower case.

When the login information has been verified with the internal *MedMap* database (or if this is the user's first login attempt), the user will be prompted to create a new password.

Please use the following rules for your password:

- a minimum of eight alphanumeric characters and
- at least one uppercase letter
- at least one lowercase letter
- at least one number
- at least one special character
- Allowed special characters: ! @ $ % * . ~ (Do not use this as the first character)
- DO NOT use following special characters: #, +, and &
- FYI: underscore is not a special character

Enter the new password twice, and press the Change Password button. This will update the *MedMap* database with your new user password. The user will be returned to the *MedMap* Login interface and be required to log into the application.

Once successfully logged in, the initial screen of *MedMap* will show an interface including a map of the continental United States along with various tools and icons.

MedMap ArcGIS Streaming Services

Needs to be updated – Jeff Marion

MedMap Viewer

The *MedMap* Viewer can be accessed from the main *MedMap* page shown above by typing the access URL: http://gis.medmap.hhs.gov/ into a web browser. Any browser may be used, whether Microsoft Internet Explorer, Mozilla Firefox, Google Chrome, or others.

The *MedMap* Viewer is an Adobe Flex-based web application capable of fusing online base maps, user data, and content from web services into a single, easy-to-use visualization solution.

MedMap Interface

The *MedMap* interface is broken down into several functional tool areas.

These will be described and detailed in the following sections. These tools include:

1. Navigation Tools
2. Functional Tools
3. My Layers
4. Basemaps

Navigation Tools

The Navigation toolbar is located along the left side of the viewing interface below the *MedMap* logo. It appears along the vertical edge and contains tools to assist the user in navigating the map. The Navigation tools include Full Extent (1), Navigation Panwheel (2), Zoom to Previous or Next Extents (3), and the Zoom Slider (4).

- Full Extent – This button allows the user to zoom the map out to the full extent of the globe. Use this tool if you need to see the full map of the earth. If you need to zoom to a particular area or location this will be described later.
- Navigation Panwheel – this tool is used if you do not need to change the scale at which you are viewing the map but need to slide the map in any of the 8 cardinal map directions (N, NE, E, SE, S, SW, W, NW). as long as you click somewhere on the panwheel the map will move in that direction. It doesn't matter what tool you are using at the time the cursor will allow the use of this tool.
- Zoom to Previous or Next Extents – These button allow you to change your map extent back from a previous view and then forward to one where you had been. This is especially useful if you zoom to somewhere and it isn't what you were expecting and you want to go back or to go between to extents for comparison. This works similarly to your web browsing back button.
- Zoom Slider – This tool allows the rapid change of extent centered in the current view. This can be done at any time and without changing from your current tool.

Additional Tools

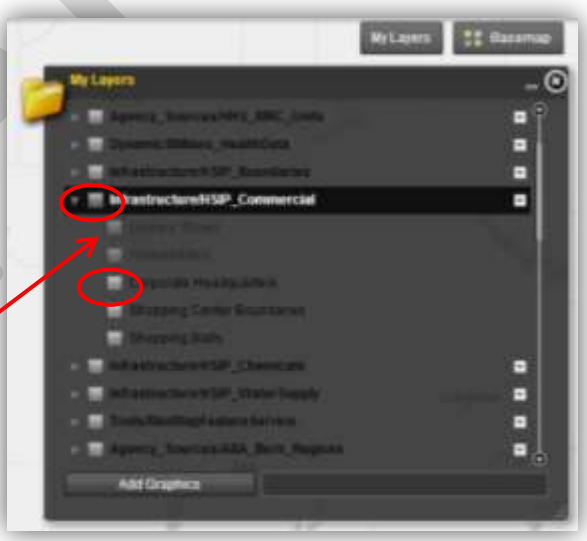
An additional set of tools immediately below the Navigation toolbar include Interactive Pan (5), Zoom In and Out to Defined Extents (6) and Identify (7).

- Interactive Pan – This tool allows you to press and hold the map and drag it to the location you want. This tool does not change the extent of the map just where the map is centered. It is used if features need to be centered or are on the edge of your map after zooming in on an area.
- Zoom In & Out – These tools are very useful if you find the area you want to view and need to zoom in or out. To zoom in select the "+" tool and then press and hold the left mouse button on a corner of the bounding box for the area you want to zoom into. When you release the mouse button the map will zoom into the selected area. To zoom out use the "-" and then do the same as the zoom in function. It uses the proportion of the map that is not selected to determine the amount to zoom out. If you select the whole map it will not zoom out much at all.

- Identify – This function is used frequently to determine what features are that are turned on by the user. None of the base map elements are able to be identified. To use this tool the user must first select the layer that they are wishing to identify. Then click on the "i" on the right and then click on the map on top of the element you want to get detailed information. The selected records from this service will appear in the list below as seen here for postal features. In order to see an individual record you need to open a layer group (if there any) and then select the record you want to see the details about. If you want to capture these as a table to export later you'll need to use the selection tool described later.

My Layers

The My Layers tool lists all the data layers and map services that are part of the *MedMap* application that you have loaded into your version of MedMap. The My Layers tool in the upper right section of the *MedMap* viewing interface is used to view and turn on the different layers.



In order to make the layers display in the map you will need to check the box to the left of the service name as well as any boxes required as you open the service to see the layers within the service (see the circled items to the left). If the parent box is not checked the layers below will not display. In addition if the layer names are displayed in *Italics* then the layer is outside its display threshold and you will need to change the scale of the map (zoom in or out) for the layer to display.

Layers within the My Layers are further organized into several functional categories to more easily identify and find different data types. These categories include:

1. Agency_Sources Miscellaneous data from state and federal sources
   Dynamic Sources that change / update frequently
2. Events Scheduled events of note
3. EXERCISE Planned Federal Exercises to support organizational readiness
4. Incidents Unplanned incidents of note

5. Infrastructure Homeland Security Infrastructure Program (HSIP) data
6. International Non-US sources (currently Puerto Rico and Virgin Islands)
7. Reference Miscellaneous data layers

Access to data layers and map services for each user is dependent on roles set by the administrator based on the application process. Each data service may have several sub layers which can be individually turned on (made visible) and displayed on the map. Layers may be added or subtracted from the My Layers by using the Add Services tool described later.

MedMap data layers are added and removed and updated regularly to reflect currently tracked Incidents, Events, exercises as well as data updates for the data we store at the Department of Health & Human Services (HHS). Additional data that we display in MedMap comes from streaming services and are only available while the internet is functioning and connectivity to MedMap exists. This data changes as often as the data provider makes changes and HHS has no ability to make changes or modify the way this data is displayed. Other agency-specific data sources are added, updated and archived as needed. As a result, some layers may become inaccessible to the user. Inaccessibility is indicated by the lack of a small triangle to the left of the data layer name in My Layers (TOC). Thus, inaccessible data layers should be removed from the My Layers (TOC) by utilizing the Add Services widget described later.

Basemap Viewer

The Basemap Selector is used to select different basemap layers for the user's current *MedMap* session. These basemaps are streamed from our software providor. The Basemap Viewer is located in the upper right corner of the *MedMap* viewing interface.

The different available basemaps include (left to right top to bottom):

1. Imagery – Imagery only
2. Imagery with labels – is the same as item 1 but with labels to help the user navigate the map
3. Streets – The basic street map to use when requiring the use of streets as reference
4. Topographic – allows the user to view a seamless contour map for the entire globe
   Terrain with Labels – provides the user with a view of what the land looks like in 3D with hill shading
5. Light Gray Canvas – This map provides the user a map with very light colors in the gray range, this is best used when trying to display a lot of features and the base map is becoming distracting
6. National Geographic – This base map is colored and labeled as if it was a page taken right off a national Geographic map with colors showing the edge of states and countries

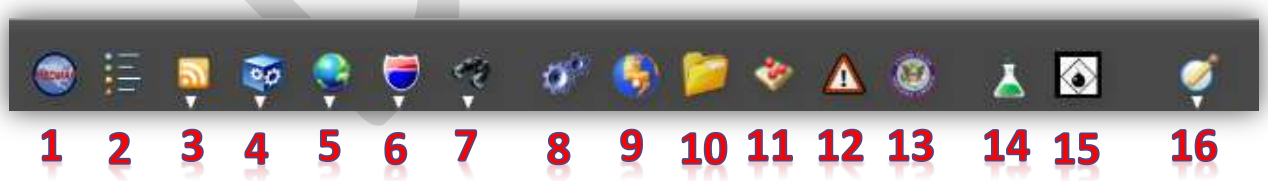
7. Oceans – This map is used when trying to show the depth of the ocean and the ocean floor
8. OpenStreetMap – This data can be used for many purposes and has additional data displayed on it other than just roads however as stated before this information is not available to be searched or identified as it is part of the base map

Contextual Position (zoom box)

The Contextual Position feature is located in the bottom right of the *MedMap* Viewer. When the user clicks on the arrow, a small map opens up to show the current position of the *MedMap* basemap (red bounded box) in the context of the larger extent. As the user changes the extent of the map in the large viewer the extent will shift in the small viewer. If the user drags the red bounding box to a different location the large map will move to show the new extent. There is no ability to change the scale with this tool but you can adjust the area displayed.

Tools

The Toolbar occupies the top center position within the *MedMap* viewing interface.



There are several ways to access tools within MedMap.

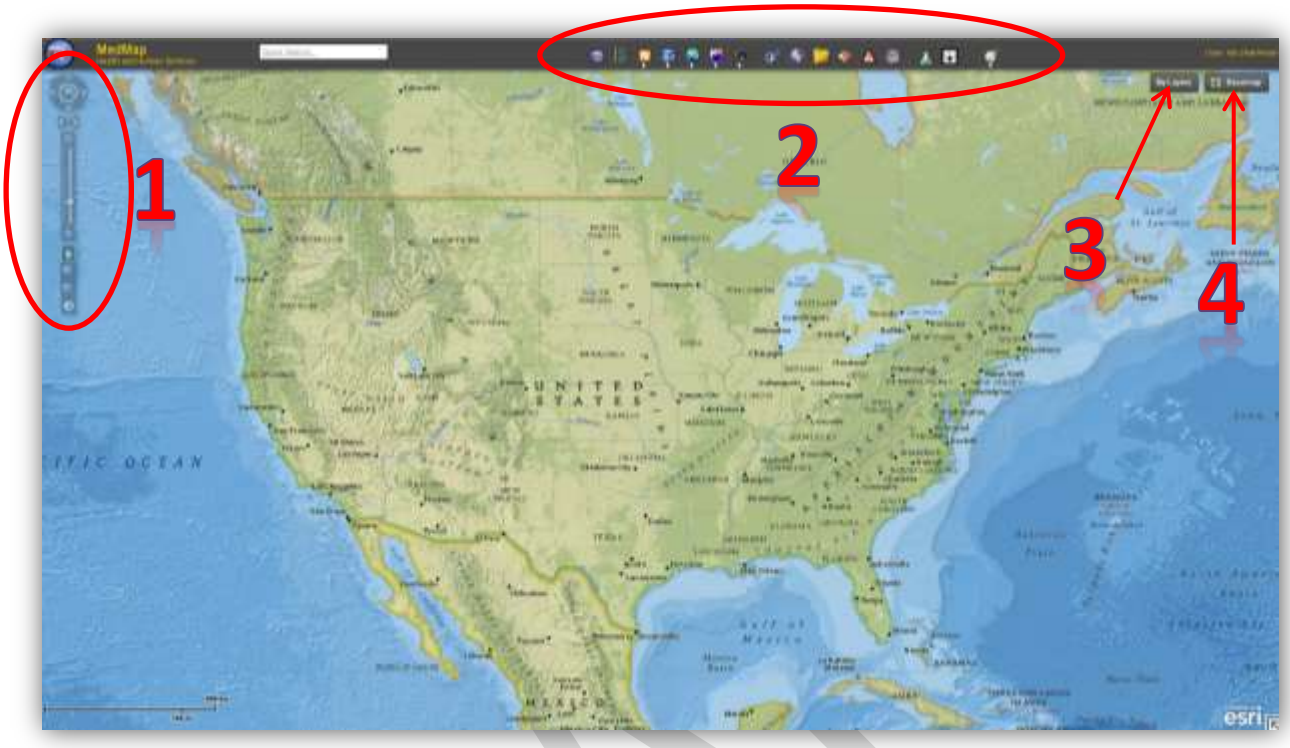
Some of these tools com in a collection and others are direct links to the tool. These are determined by the arrow pointing down under the icon. To see what tools are within the collection, use the mouse to hover over the icon to see what the collection is called. To access

the tool just click on the icon and drag your cursor down to the tool you wish to launch and click on it. The tool should pop up quickly. Those tools that do not have an arrow under it will still provide the tool name when hovering over it but will open the tool directly if they are clicked.

The image above shows all the tools and tool collections that are within *MedMap*. Access to the tools for each user is dependent on roles assigned by the administrator and the applicant during the application process. If there are layers or tools described in this or any other document please contact the MedMap staff at MedMap@hhs.gov to see if you could be added to the roles that manages the data tool that you're requesting access. Listed below are the tool and tool collections above viewing from left to right.

1. About MedMap
2. Dynamic Legend
3. Earthquakes/Radar/Other
    a. Earthquakes (30 days)
    b. NEXRAD Reflectance
4. Utilities
    a. Draw
    b. Add Services
    c. Load/Save View
    d. Print
5. Location Tools
    a. Find an Address/Place
    b. Google Street View
    c. Regions/Bookmarks
6. TrafficLand
    a. TrafficLand cameras
7. NOAA
    a. NOAA River Gauges
8. Spatial Query
9. KML Services
10. vUSA Library
11. Datapoint Analysis
12. PARS Events Web Service
13. SAGE Tracks
14. ERG Chemical
15. Bomb Threat
16. Markups
    a. Incident markup
    b. Facility Markup

MedMap Interface – Detailed



As mentioned in the previous section, the *MedMap* interface is composed of several sections:

1. Navigation
2. Tools
3. My Layers
4. Basemap Selection

Navigation Tools

The Navigation Tools include from top to bottom: Full Extent, Navigation Panwheel (east, west, north, south), Zoom to Previous or Next Extents, and the Zoom Slider.

The Navigation toolbar is located along the left side of the viewing interface below the *MedMap* logo. It appears along the vertical edge and contains tools to assist the user in navigating the map. The Navigation tools include Full Extent (1), Navigation Panwheel (2), Zoom to Previous or Next Extents (3), and the Zoom Slider (4).

- Full Extent – This button allows the user to zoom the map out to the full extent of the globe. Use this tool if you need to see the full map of the earth. If you need to zoom to a particular area or location this will be described later.
- Navigation Panwheel – this tool is used if you do not need to change the scale at which you are viewing the map but need to slide the map in any of the 8 cardinal map directions (N, NE, E, SE, S, SW, W, NW). as long as you click somewhere on the panwheel the map will move in that direction. It doesn't matter what tool you are using at the time the cursor will allow the use of this tool.
- Zoom to Previous or Next Extents – These button allow you to change your map extent back from a previous view and then forward to one where you had been. This is especially useful if you zoom to somewhere and it isn't what you were expecting and you want to go back or to go between to extents for comparison. This works similarly to your web browsing back button.
- Zoom Slider – This tool allows the rapid change of extent centered in the current view. This can be done at any time and without changing from your current tool.

Full Extent

The Full Extent tool (globe) allows the user to return to the highest extent of the current data layer. The user can click on the globe at the center of the widget to return to the highest extent (the World) in the *MedMap* application.

Navigation Panwheel

The Pan tool allows the user to move from one section of the map view to another at the same zoom level. The Navigation Panwheel tool allows the user to slide a short distance in a given direction (east, west, north, or south). To pan in a certain direction, the user can click on the **<** **>** and **^** **v** buttons of the tool to pan in that direction.

Zoom to Previous Extent or Next Extent

This tool, located below the Full Extent and Navigation Panwheel tools, allows the user to navigate to extents that have been previously used by the *MedMap* application. This performs the same function as the "Back" button on a standard web browser.

Zoom to Previous Extent or Next Extent

The Zoom Slider tool allows the user to zoom closer to or further from an area.

There are two ways to use this tool.

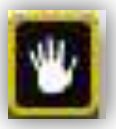
1. Use the (**+**) or (**-**) sign on the navigation slider. The map will incrementally zoom the user closer to or further from the center of the map.
2. Use the slider bar to drag towards the (**+**) or (**-**) sign.

NOTE*: Users may also use the scroll wheel of the mouse to zoom in or out.. Rolling the wheel away from you causes the map to zoom in centered on where the mouse location is on the map.*

Additional Tools

An additional set of tools immediately below the Navigation toolbar includes Interactive Pan, Zoom In and Out to Defined Extents, Identify, Export and Print, and the Graphics Selector.

Interactive Pan

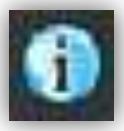


The Interactive Pan tool is defined by the hand. The simplest way to pan in the current application is to select this tool, click and hold the mouse, and drag the map from one side to another. If the user wants to pan more, then the user should drag the hand towards the desired direction more than once.

Zoom In and Out to Defined Extents

The Defined Extents Zoom tool allows the user to zoom into and out of a specific area on the map interface. When the + or − buttons have been selected, the cursor changes to a crosshair icon. The user can zoom into a selected extent by pressing and holding the left mouse button and dragging the mouse to create a box around the area the user would like to zoom to. Zooming out is performed in the same manner.

Identify Tool



The Identify tool allows the user to identify the details of map features. Make at least one layer from My Layers visible and then click on the Identify tool on the left panel of the *MedMap* interface. Select the layer that is being identified (only visible or checked layers in the My Layers section will be shown in the drop-down menu). More information about making layers visible or invisible may be found in the My Layers section.

The Identify tool allows the user to select a map feature and obtain specific information about it. After a feature has been identified, the Log Status button may be used to classify the condition of the feature. Then, the Check Status tool may be used to view statuses which have been logged in *MedMap*. ***Note****: The Log Status button and Check Status tools are currently inoperable.*

To use the Identify Tool:

1. Check that the data layer(s) and sub layer(s) of interest are made visible and accessible in My Layers.
2. Click on the Identify tool which is located with the Additional Tools on the left side of the *MedMap* interface.
3. Select the data layer of interest in the Layers drop-down box.
4. Click the Identify button located to the right of the Layers drop-down box. The cursor will change to a cross hair symbol.
5. With the cross hair symbol, click on the map feature to be identified. An attribute table pertaining to the map feature will be generated.

Identify with Results

When the user clicks the  button, the cursor will change to a cross hair symbol. This symbol is used to click on the feature to be identified on the map. Some features may not

display on the map if the interface is zoomed out. Zoom in to see the features of the turned on layers.

***Note**: If the user clicks on a feature which does not correspond to the layer selected in the drop-down box of the Identify tool, then a "No features found" error will occur. The user may switch which features are to be identified by changing the active layer in the drop-down box. If there are multiple layers within the data service even if the features are not turned on they will be returned in the identify query.*

The selected map feature will have a black circular highlight and the corresponding results display in the Identify panel. Attributes (fields) of the identified feature are listed in alphabetical order.

If the *MedMap* interface view is zoomed out, it is likely the user may produce many results in the Identify column. When multiple results are displayed in the Identify column, the user may click on different results to view their corresponding attribute tables by selecting from the left Identify column.

A simpler way of identifying individual features is to zoom closer and select only one.

The results of multiple identifications:

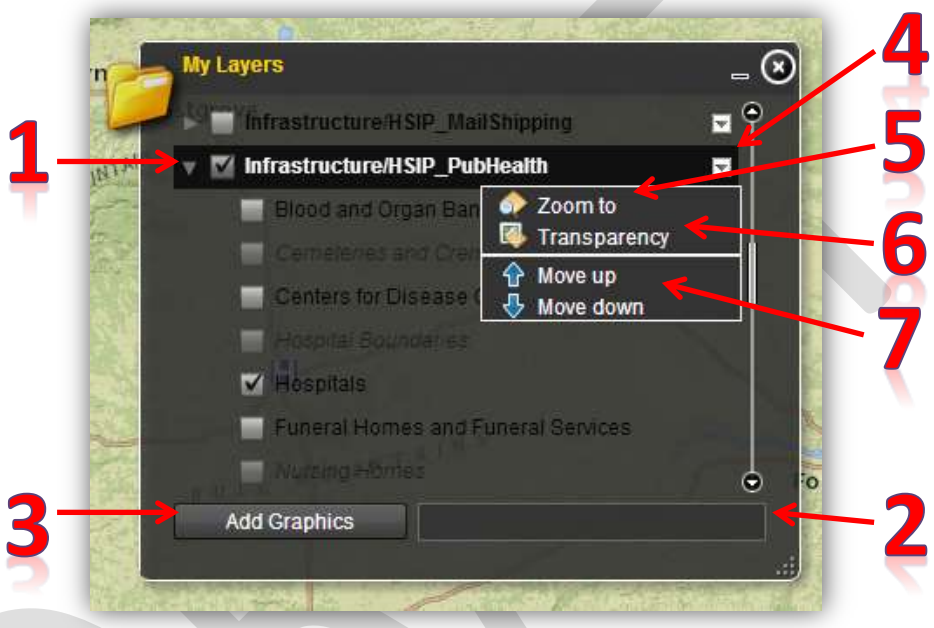
My Layers

The My Layers section lists out all the data layers and content in the current *MedMap* application. The list of data layers available is determined by the user permissions and access set by the administrator. *MedMap* data layers are added and removed regularly to reflect currently tracked Incidents and Events. Other agency-specific data sources are added and archived as needed. *MedMap* users can be notified of these changes by requesting inclusion on the Data Notifications email.

Each data layer has several sub layers which can be expanded and made visible/invisible on the map with their predetermined symbologies. ***Note**: The data layers are not listed in alphabetical order.*

My Layers has many functional areas, including the ability to:

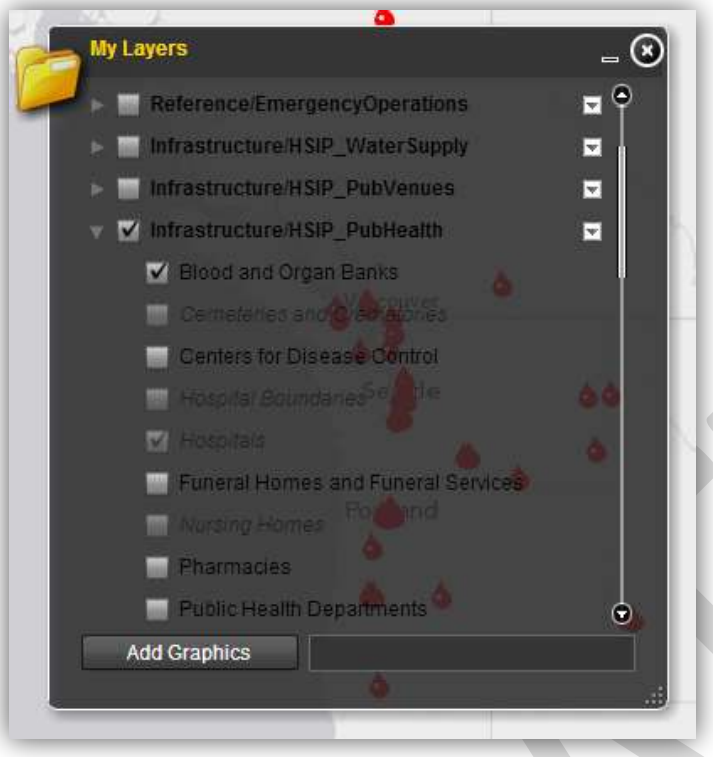
1. Select and turn on Layers
2. Find a Layer
3. Add/Remove Graphics
4. Access layer customization
5. Zoom to
6. Transparency
7. Move up/down



Select and View Layers

Layers may be viewed on the map interface by clicking the small check box to the left of the data service name. Then, click on the arrow next to the check box to expand the service and view the layers available. ***NOTE**: If there is no small arrow, the layer is currently inactive and should be removed from My Layers by using the Add Services tool.* Additionally, the Add Services tool must be used to add or subtract available layers to the My Layers list of available layers.

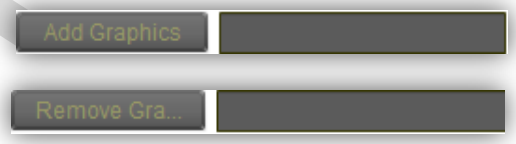
Layers become visible by clicking the check box to the left of the layer name. As seen in the image to the right both the service and the layer need to be turned on for the layer to display. In addition if the layer name is in *grey italics* the layer will not display until you zoom to the minimum scale for the layer to display.



Find a layer

The Quick Search box adjacent to the Add and Remove Graphics button allows the users to find layers within My Layers quickly. The layers containing the keywords become highlighted in red for easy finding. Users may scroll up and down to find the highlighted layers. If the keyword being searched is within a layer, the main data layer will automatically expand to show the sub layer where the keyword is located.
***NOTE**: This will only work for those layers in the user's My Layers. If the desired data layer is not found, it may need to be added to My Layers by using the Add Services widget.*

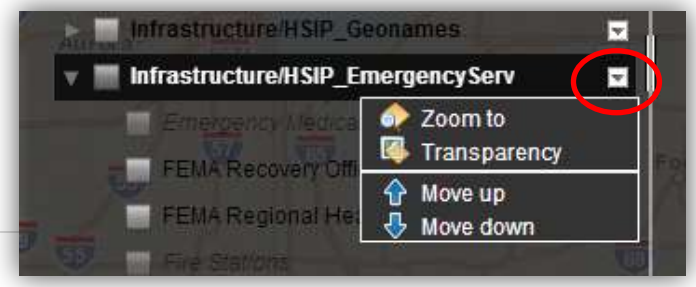
Add/Remove Graphics



This button allows the user to display the graphics that are generated by either the user or the system from tools such as the draw tool or the Spatial Query. To use this function press the Add Graphics button and then go to the top of the list of the layers in the My Layers list. You should see the additional items that are available to be displayed. To remove these items from your list just click on the same button that is now named Remove Graphics. Graphics are added to the map either using the Draw tool or through other tools or widgets such as the ERG Chemical tool, Bomb Threat tool, and so forth. The Add Graphics button allows the user to add these graphics to the My Layers as layers which can be made visible or invisible. The Remove Graphics button removes these layers from the My Layers. *NOTE: The Add and Remove Graphics buttons do not remove map features from the map interface, only graphics.*

Access to layer customization

To be able to customize the display of the service the user must select the arrow on the right side of the service name. This will bring up the menu allowing the user to do the following; Zoom to, Transparency, Move up and



Move down. These functions are described in detail below.

Zoom to

The Zoom to function will adjust the scale of the map so that the service becomes visible. This is helpful if you have all of the layers turned on as well as the service and the data is still not visible on the map. By using this tool the map will automatically change to an appropriate zoom level to display the features. It may not be located where you were on the map but it will let you know what the level is that will allow the feature to display. We are working on enhancing this feature to me more useful and will notify the users and update the documentation if/when anything changes.

Transparency

The Transparency tool allows users to personalize the appearance of symbology within *MedMap*. Users may adjust the transparency of the symbology by selecting a main data layer (so it is highlighted) and then selecting the transparency link followed by adjusting the slider to adjust the transparency of the service. The change of transparency will adjust all the data layers at once. Users can only change the transparency of one main data layer at a time and cannot select individual sub layers to change their transparency.

Move up/down

This function will become useful when the user has multiple layers turned on and one is covering another. By moving one layer above another it may be possible to have a point layer on top of a line or polygon layer and not have any of the layers visibility modified by the transparency function. Thus allowing the creation of a map exactly the way the user originally intended. The movement of the layer is only for that instance of MedMap so when the user logs in the layers will revert to the order in which they were originally loaded by the system.

Many *MedMap* tools produce graphic layers which can be added or removed from My Layers. This is outlined in the following chart:

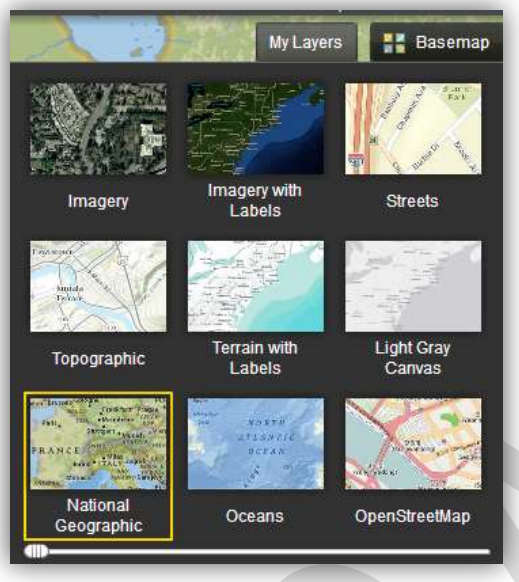
Tool or Widget Name	Tool or Widget Interface Where Graphic Layer is Produced	Graphic Layer Name in My Layers (TOC)
Identify Tool	Identify	Identify results
		Layer feature status results
		Select results
External Feeds	Earthquakes-Shakemaps (30 days)	GeoRSS Feed
	NEXRAD Reflectance	WMSLayer*
Spatial Query	Attribute Filter interface	Spatial query graphics
	Spatial Filter interface	Spatial filter graphics
Draw	Draw Tool (includes graphics and text)	Draw Graphics†
Datapoint Analysis	Add Database	DPA GeoRSS Graphics
	Add Database	DPA Graphics
	Show Network Links	DPA KML Graphics
Find a Address/Place	Address interface	Find address/place graphics
ERG Chemical	ERG Chemical	ERG chemical graphics
Bomb Threat	Bomb Threat	Bomb threat graphics

*The NEXRAD Reflectance graphics may only be viewed if the NEXRAD Reflectance widget is active.

† The Draw Tool will produce many different graphic layer names when the Graphics Selector tool is activated.

Basemap views

Basemaps allow the user to select the type of map to display in their MedMap application. The current choices are; Imagery, Imagery with Labels, Streets, Topographic, Terrain with Labels, Light Gray Canvas, National Geographic, Oceans and OpenStreetMap.



- Imagery
  - Satellite imagery captured at many different times and put together to create on seamless coverage of the earth. Resolution and updates vary depending on location and the need for updates.
- Imagery with Labels
  - This is the same imagery with additional labeling turned on. These labels can NOT be turned off by the MedMap user; they are part of the background image.
- Streets
  - This is a great map to show the transportation network over the world. The symbols are what most US users are used to and the terrain is simplified for ease of use.
- Topographic
  - This basemap is great when trying to determine slope and the potential flooding when elevation information is not available. This is a seamless map based on many sources including the USGS topographic maps.
- Terrain with Labels
  - This map is similar to the topographic maps except that the land use is not displayed and the land is cover is removed.
- Light Gray Canvas
  - Although it appears very barren it can be used with great impact for times when you are displaying many features on your map and the background distracts the observed features.
- National Geographic

    - This is the base map found in many of the official National Geographic maps. Great for locating features by sight and has a lot of useful data displayed on the map.
- Oceans
    - When displaying this basemap remember that its true advantage is the mapping of the sea and ocean floors.
- OpenStreetMap
    - This basemap is created an updated through the use of the open source and can be edited by many users. It uses symbology that is accepted worldwide. The data may have additional features that are not just used for reference. Remember that all of the data on this is on one layer and cannot be turned off individually.

Data displayed on the basemap is just an image and cannot be selected or queried. It is displayed for background informational purposes and has not information behind it that can be reported on. That is why we have data layers for use in MedMap.

User Name

The user name displayed indicates the person who is logged into the MedMap application.

Tools

1. About MedMap
2. Dynamic Legend
3. Earthquakes/Radar/Other
   3.1. Earthquakes (30 days)
   3.2. NEXRAD Reflectance
4. Utilities
   4.1. Draw
   4.2. Add Services
   4.3. Load/Save View
   4.4. Print
5. Location Tools
   5.1. Find an Address/Place
   5.2. Google Street View
   5.3. Regions/Bookmarks
6. TrafficLand
   6.1. TrafficLand cameras
7. NOAA
   7.1. NOAA River Gauges
8. Spatial Query
9. KML Services
10. vUSA Library
11. Datapoint Analysis
12. PARS Events Web Service
13. SAGE Tracks
14. ERG Chemical
15. Bomb Threat
16. Markups
    16.1. Incident markup
    16.2. Facility Markup

About

The About section shows a pop up with the names and links to the different locations that may be of use to the user. It has the link to this document and other information such as the data dictionary with all of the layers that are available in MedMap and brief metadata about the layer, in PDF form to be viewed and printed if required. In order to report bugs in the application or request changes to the data or application please use the GIS Portal (INERST PORTAL PAGE ADDRESS)

Dynamic Legend

The Dynamic Legend displays symbologies from all visible layers which are being displayed on the map. When layers are turned off the Dynamic Legend does not display them. The legend display will show all of the symbologies that are turned on whether they are within the map extent or not. If they are not visible due to the scale of the map they will not appear in the legend.

Earthquakes (30 days)

This is the feed for earthquakes from all over the world. By displaying these locations you are able to see where and when the earthquakes occurred both on the list from the tool and from the symbols on the map. The list is done in chronological order with the most recent on top. By clicking on one of the records in the list you will be taken to this location and the "pop-up" will display the details from this event as well as the link to the USGS webpage for this earthquake. There is a button to **Zoom to** the event. This may require you to change the base map in order to view the location. The link to the website provides additional information as well as the ability to download data that the MedMap staff can load into MedMap if requested (for HHS staff only).

NEXRAD Reflectance

This dataset displays a one hour radar loop for CONUS (the lower 48) in 5 minute increments. This feed will refresh as long as you have the feed open (the tool can be minimized not closed). The color scale on the tool depicts the intensity of the precipitation but will not differentiate between types of precipitation. The Opacity function at the bottom of the tool allows the user to change the visibility of features beneath the radar. The closer to 0% the less you'll see the radar and more of the data beneath. At 100% you will not see anything beneath the radar.

Draw

This tool has advanced quite a bit since the last version. Each of the types of features can be drawn in many shapes. The shape types are from left to right:

Point
Multi vertex lines
Freehand line
Rectangle
Circle
Ellipse
Polygon
Freehand polygon
Text

Each shape has its own different set of variables that can be used to customize the look of the shape ranging from size, color Alpha (transparency), color and width. Some of the additional functions are labeling the measurements.

Points

For points this allows the location of the points based on different mapping projections; NAD 1983 AL East, Decimal Degrees (used by the location tool to find locations on the map), DMS (WGS84) used to display the degrees minutes and seconds used in global projections and NAD

1983 UTM 19N. Most users will find the most use between the DMS (WGS84) and the Decimal Degrees options. The text options are listed below the units and must be set before the feature is placed.

For Multi vertex lines and Freehand lines the measure options are listed as Meters, Kilometers, Feet and Miles. The text options are listed below the units and must be set before the feature is placed.

Lines (multi-vertex and freehand)

For lines the user has the ability to draw lines with many colors and many styles (solid, dash, dot, dash dot and dash dot dot) as well as customizable width and Alpha (transparency with the lower number is lighter). If the box for Draw Arrow is checked the end point (not the starting point of the line) will be where the arrow is placed. If the distance between two points needs to be measured then the checkbox for Show Measurements should be checked. This will allow the user to select the units of measurement (Meters, Kilometers, Feet or Miles) and the text font, style, size and color that will be used. If you do not like what was placed you'll need to press the "Clear drawings" link that appears once you have drawn a feature. If you do not erase the feature when it is placed the second click on the clear drawings will delete all of the graphics on your map.

Circles, Ellipses and Polygons

For circles, ellipses and polygons the user has the ability to draw the edges of the shape in one color and thickness and the fill color in a number of colors and many shading or fill styles ranging from solid fill to patterns. Each of the items (edges and fill have their own Alpha level allowing the user to customize the transparency of each item that best suits their need for that feature. This can be changed for each feature drawn. Settings must be set prior to the drawing of the feature not changed after. If the Show Measurements box is checked then there are additional options for displaying the text for the feature. The variables for the feature that can be measured are the perimeter and the area. Each of these can be set individually from meters, kilometers, feet and miles for the perimeter to square miles, square meters, square kilometers, square feet, acres and hectares. If you do not like what was placed you'll need to press the "Clear drawings" link that appears once you have drawn a feature. If you do not erase the feature when it is placed the second click on the clear drawings will delete all of the graphics on your map.

Text

When adding text to your map you have the ability to set the type as bold, italic, underline or any combination of these. You will need to select the Font type from one of the six preset font types as well as the size and color of the text. To add the text to the map select the text icon and then select a point on the map to insert your text. If you do not like what was placed you'll need to press the "Clear drawings" link that appears once you have drawn a feature. If you do

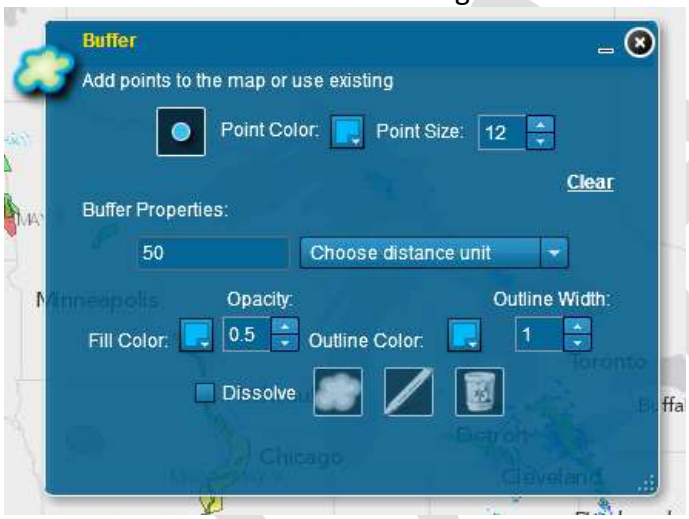
not erase the feature when it is placed the second click on the clear drawings will delete all of the graphics on your map.

Saving and adding saved graphics

In order to continue working on a map from one session to the next or to share the graphics that you have created you have the ability to save out and load saved graphics to a TXT file. In order to do this you will need to press either the icon in the upper right that looks like a disk or a folder. The icon that looks like a disk is used to save all of the graphics into one TXT file that can be loaded at a later time or by another user. The folder icon allows you to select a file saved onto your computer and display it on your map. You can load as many saved graphics files as you wish. You can also add to these files and save them as your own or to share with others.

Buffer

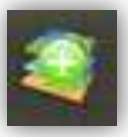
The buffer tool allows the user to generate a buffer from one or many graphic points on the map.



By selecting the color that will best show the location(s) on the map you want buffered you will be able to get the visualization you are looking for. Then select the distance to create for the buffer and select the desired units of measure (feet, miles, meters, or kilometers). You may also change the color of the circle that will depict the buffer and the fill within the circle. The opacity is applied to both the circle fill and the outline so 0 will make your feature not visible.

This tool does allow you to change this value after the feature is created so adjustments can be made after the buffer is created for both the opacity and the colors. If you desire a buffer around multiple points you may either do this all at once or one at a time. However if you do them one at a time the points that are left on the map are reprocess each time the tool is run. In this case it is advised to place all of the point first and then run the tool once. If you do not want to see the overlap but the entire buffer as one feature select the dissolve checkbox.to run the buffer tool press the button to the right of the dissolve text once all of your settings have been selected. To remove the graphics press the trash can button in the bottom right of the menu. To remove the point drawn with this tool you'll need to press the clear link on the upper right side of the tool.

Add Services

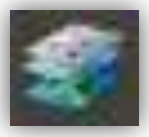


The Add Services tool allows users to manage map data layers for their My Layers. If users wish to only use specific data layers accessible by their roles, they can manage the data layers by adding or removing them with this tool.

The Catalog lists all of the data layers which are available to the user. Only one data layer from the catalog may be selected at a time. Users may add more than one data layer at a time to the Operational Layers by selecting the desired layer, clicking add, and then repeating this process until the user has selected all of the desired data layers. The Operational Layers will be listed in the My Layers once they have been added.
Data Layers may be removed from the Operational Layers by selecting an individual layer and clicking the Remove button.

MedMap's performance at the log in is based on the number of layers you have it attaching to in your My Layers list. The shorter the list the faster the loading time (not including network bandwidth and other IT issues). Please only add those layers that you need to your MedMap session so that you won't be disappointed with the performance.

Load/Save View



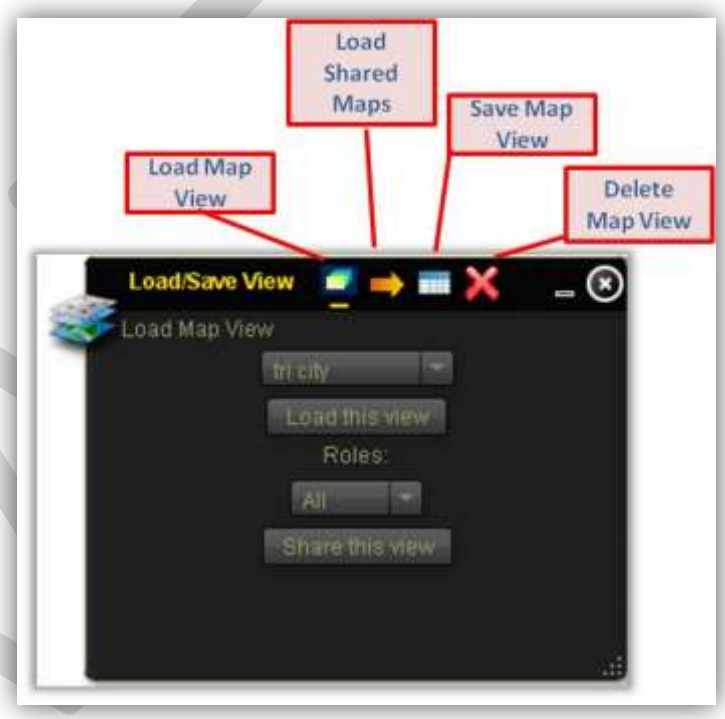
The Load/Save View widget allows users to load a map view, load a shared map, save a current map view, or delete a map view. Users are only able to load or share map views with other users who have the same role(s).

Load Map View

The widget allows users to share their saved views with other users. From the Load Map View section, users can select the view they want to load (these are views saved by the current user by using the Save Map View section) and click the Load this view button. Users can select a role from the Roles drop-down list and click Share this view button to share views with others users.

Load Shared Maps

To load a view that has been shared by other users in the same role, navigate to the Load Shared Maps section and select the view to be loaded. Views can be sorted by map name, user name, or role.



Save Map View

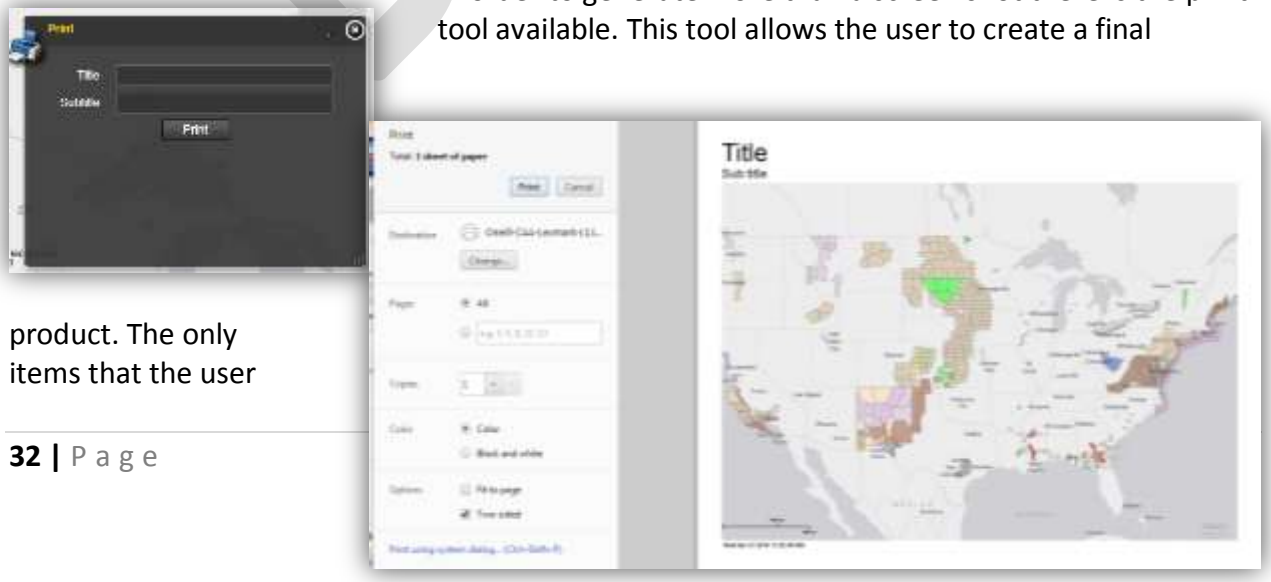
To save a view of the *MedMap* interface, navigate to the map view to be saved. Select the data layers from My Layers to be saved and therefore made visible in the saved map view. In the Save Map View section, enter a name for the view, then click the Save button. This map view will now be able to be shared with other *MedMap* users.

Delete Map View

To delete a previously saved view, users may select a view to delete in the drop-down box located in the Delete Map View section. Shared maps which are deleted will no longer be accessible to other *MedMap* users.

Print

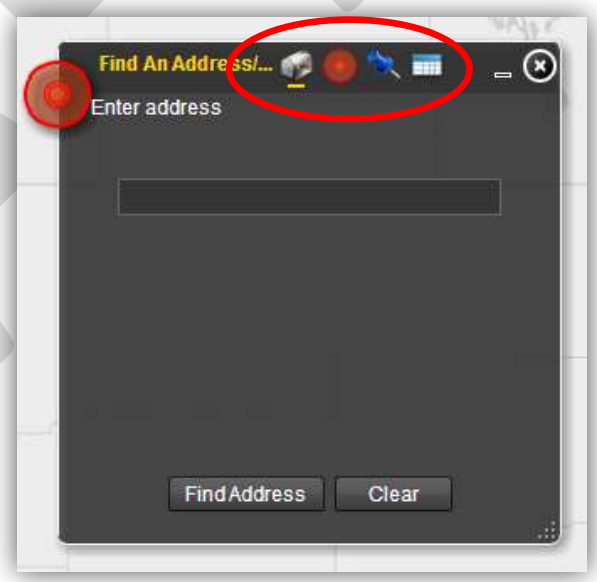
In order to generate more than a screen shot there is the print tool available. This tool allows the user to create a final product. The only items that the user



has the ability to change are the Title and Subtitle. Once these items are entered the user presses the Print button and will be prompted to print the document through their own printing dialogue. The page will be a portrait layout (not changeable) and any and all of the tools that are open including the legend will not appear on the map when it is printed. The items that will be added automatically are the date and scale.

Find an Address/Place

The **Find Address/Place** tool allows the user to find an address or place on the map. The user can either enter:



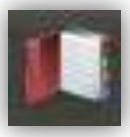
1. A combination of street number, street name, city, state, and zip code (**Address** tab – looks like a mailbox)
2. A place name (**Place Finder** tab – looks like a target)
3. The latitude and longitude of the place (**Coordinates** tab looks like a push pin).

The **Results** are displayed based on best match in a new tab (looks like a spreadsheet) and the top result is selected on the map. The find an address tool is configured to accept U.S. addresses, but the **Place Finder** feature can be used for global place name searches. The place name search should be used for single names such as Paris or Rome. The more detail you put in for the place name the better result will be returned. If the coordinates (latitude and longitude) of a location are known, then the **Coordinates** tab may be used to locate an address. If you need to find out what the coordinates are for a location then you will need to use the draw tool with the labeling for points (see the section on the draw tool for more details).

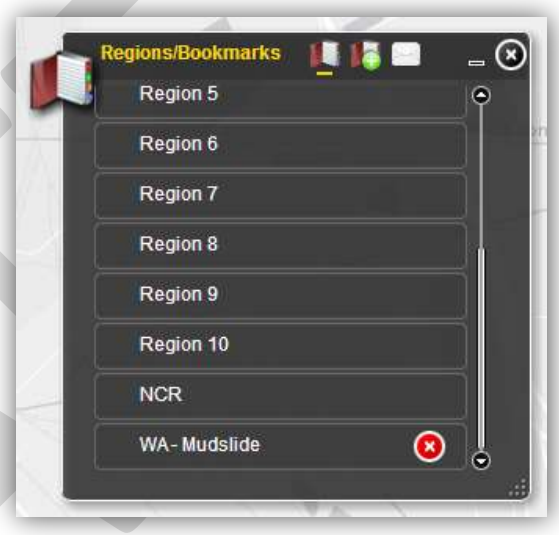
Google Street View

In order to view the information from Google Street View the user will need to start the tool and click on the icon that looks like a person standing (on the tool itself). Then you will click on the map to start the viewing process. Once the user has clicked on the map the viewing area will change adding a viewing bar at the bottom that displays the point that was selected. The direction of the view is North to start but can be changed by using the mouse controls on the imagery to change the data being displayed. This in turn will change the location and orientation of the icon on the map. If you use the directional arrows on the Google display you may move your view location and the icon will also move on the map. While using the Pan tool on the map you can grab the icon and move it on the map display. The map will change as well as the google display while not changing the orientation of the icon. Once you are finished viewing the Google data all you need to do is close the tool and the map will redraw as it was before. If you minimize this tool, it will make the Google display disappear, however if you open the tool back up from being minimized it will resume from the point it you left off. If you close the tool and then re-open it you will need to re select your viewing point and start again for any changes you might have made to the direction of your view. The data in this view is owned and updated by Google and the update frequency is only known to them.

Regions Bookmarks and Preconfigured Regions



This tool allows users to zoom to preconfigured HHS Regions (also used by FEMA) of the United States, to the Continental US, and to the National Capital Region (NCR). In the Bookmarks tab, select the location of interest. Users can also zoom to specific areas of interest and use the Add Bookmark tab to save the area of interest as a bookmark. The custom saved bookmarks will be signified by having an X in a red circle to the right of the bookmark. These are the only bookmarks that the user can delete from MedMap. This is different than using the Load/Save View widget, as the bookmarks cannot be shared with other users and they do not remember the layers that were turned on at that time. These book marks are great if you have an area of interest that you want to get to but the data that you may want to view will change. The saved bookmarks are saved locally on your computer NOT on the MedMap system so when you go to another computer the custom bookmarks will not be there even when you use the same log-in. If this is something you will want see the section on Load/Save View.

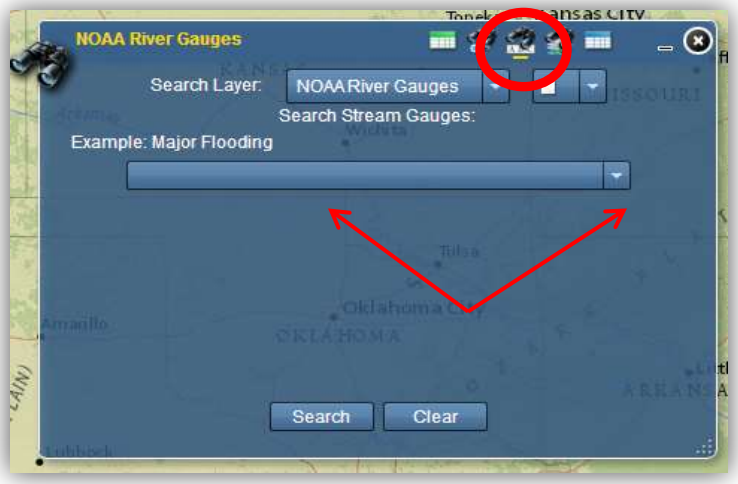


Traffic Cameras

The traffic camera feed is provided by TrafficLand and shows all of the traffic cameras that they have access to across the nation (10,000+). In order to view the cameras you will need to open the TrafficLand Camera tool. If you are opening this tool at the full extent of the US or larger the performance of your MedMap session will be effected and it will become extremely slow as it is pulling the camera feeds from all of the cameras in your view. **NOTE: It is suggested that you zoom into your area of interest before you open this feed.** Once the tool has opened the list of the cameras provided is in order of the most current image in the library. If you wish to scroll down through this list to locate your camera of interest you can do this or you can click on the camera image on the map to obtain the information from the camera. The information will include the location of the camera listed as the Name, the date and time of the last image and a link to the image. By clicking on the link a new widow or tab will be opened and the most current image will be displayed. Depending on the refresh rate of the camera you might be able to refresh this window to get renewed images. This window will be able to get new images when refreshed for no longer than 60 minutes and then you'll need to click on the link to get a new token for the browser window.

NOAA River Gauges

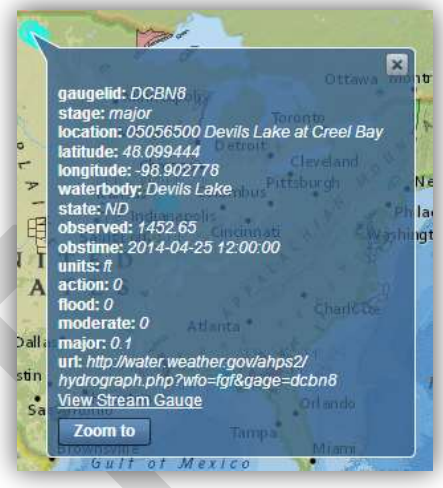
This tool can be used for many aspects of querying the data from the river gauges in all of the 50 states of the US. The first and quickest method of selection is to use the icon in the middle of the tool the Text Search (circled in red in the graphic to the left).



Text Search

This will allow the user to search the full database of all of the river gauges in the country. Using the pull down list activated by pressing on the items shown by the arrows the user will be allowed to select the level of flooding they wish to find; major, moderate, minor, normal action or old. Once the level is

selected the display will change to show the full extent of all of the gauges that are at the selected level. **NOTE: You do not have to have the Dynamic/NOAA River Gauges data service turned on to use this tool. This layer will display all of the gauges symbolized in either their current state or in their forecasted state.** With the records displayed on the map the tools display also changes to a list view of all of the selected gauges. As you scroll through the list and drag your cursor over the information about the gauge the location of the gauge is denoted with a pop-up box containing all of the information about that location. Included in this pop-up is a link to the NOAA web site for that gauge with all of the detailed information about the location from graphs to text description of the flood impacts. The Zoom to button on this pop-up will zoom you into the map to display the local area around the flood gauge.



Graphical Search

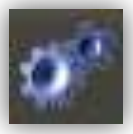
The other way that you might want to query the river gauges is to select the Graphical Search (the icon to the left of the Text Search option). This option will allow the user to select all of the gauges in a particular area and then manually browse through them to retrieve the data from each location. The selection method is similar to that of the Spatial Query tool. You will need to draw a graphic using the tools provided and if needed use the buffer option (especially with the point selection). If needed you can run a selection by text first and then run a selection by graphic to narrow down the returned locations. By default the Create New Selection option is always on but if needed it can be changed to Add to Current Selection or Remove from Current Selection. Again the selected locations will be listed in the tool for use to browse and zoom to the individual locations.

Spatial Selection

This option has not yet been implemented at this time. It is planned to be rolled out in the future and this section of the documentation will be updated at that time.

Spatial Query

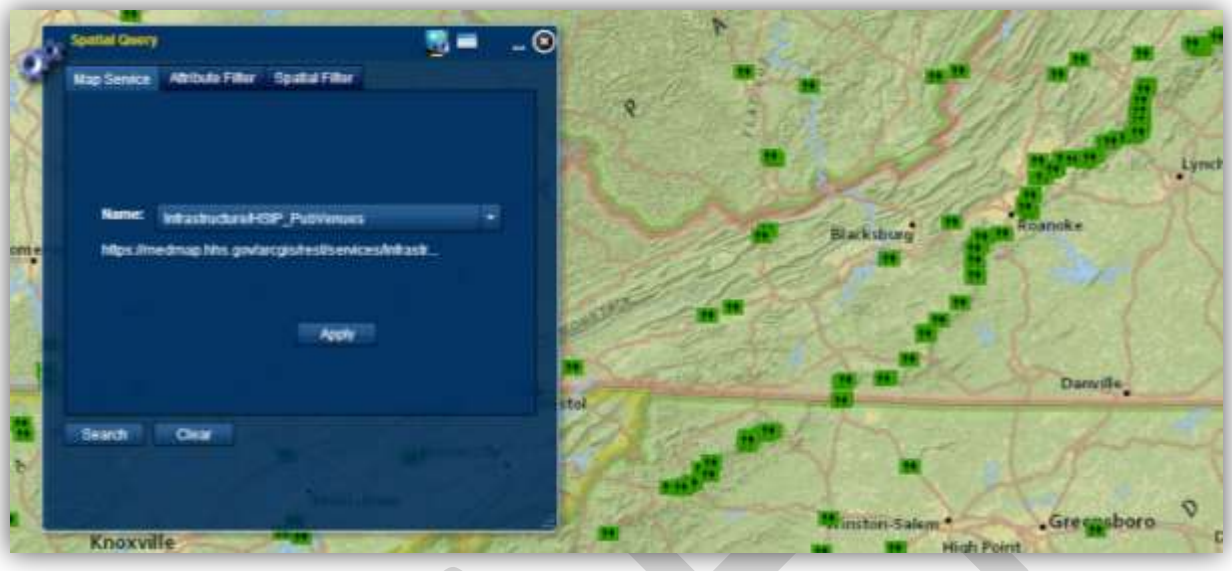
The Spatial Query tool allows the user to run specific queries for accessible data layers. The Spatial Query tool has several fields which need to be filled out by the user before the query can be executed.



Before Conducting a Query:

In the Map Service tab, select a map data layer and click the Apply button. The list of data layers available consists of layers that are checked on (visible) in My Layers.

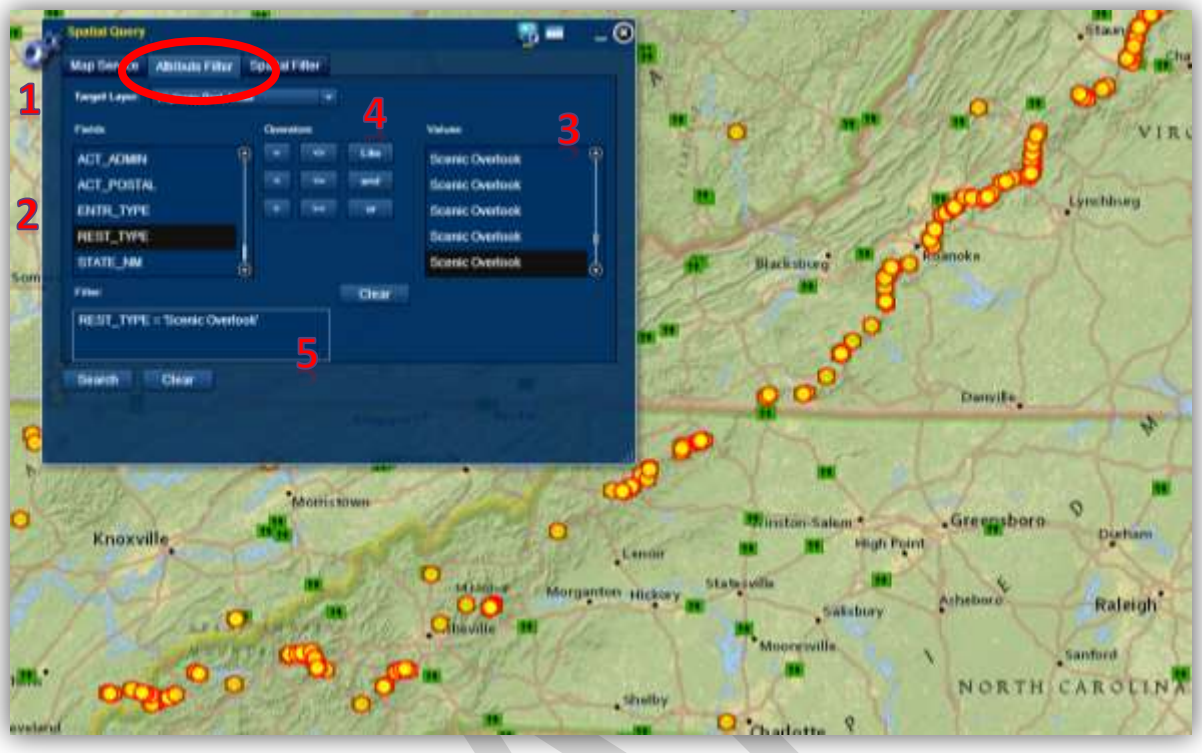
This example uses the Infrastructure/HSIP PubVenues data for Highway Rest Areas.



To Conduct a Query:

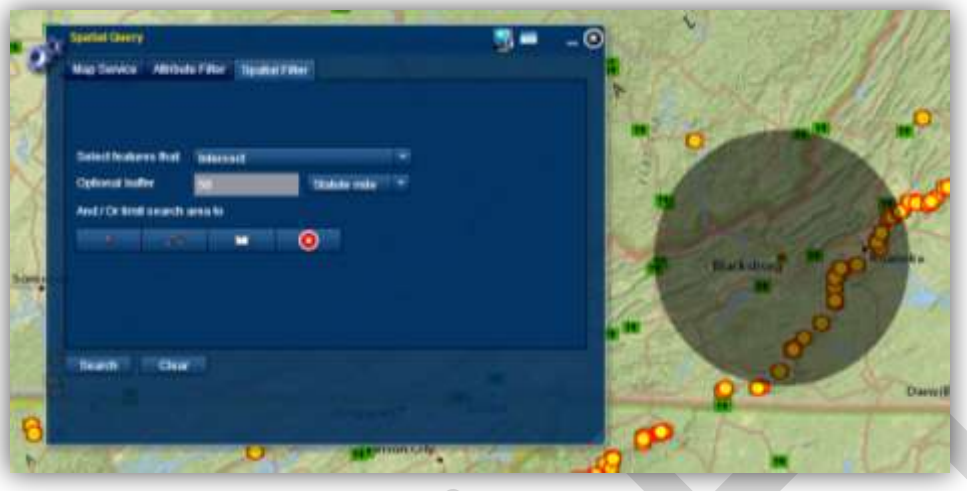
1. In the Attribute Filter tab, select the target layer on which the query will be executed. Once the target layer is selected, the fields from that layer will populate in the Fields section. *NOTE: If a data layer in the Map Service tab has not been selected, then this option will not work.*
2. Double click on the Field which will be used (first column). The first 50 values for that field will be listed in the Values column (third column).
3. Select a Field Value (third column). These values are NOT in alphabetical/numerical order. NOTE: If there are null values in the data set, there will be blank spaces in the third column. Scroll down using the up and down arrows to see the available values. If you do
4. Then, select the Operator (second column) from the list of operators (<, >, =, <=, >=, LIKE, OR, AND).
5. The Filter command will be displayed in the text box below. If required, change the value and click on the Search button.

The query will execute and the candidates which match the query criteria will be highlighted on the map.

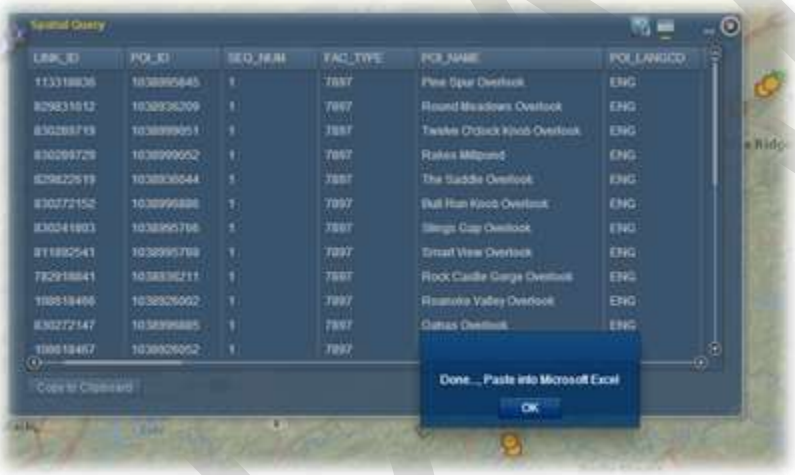


The Spatial Filter tab and can be used independently or in combination with the Attribute Filter. The Spatial Filter allows the user to add a spatial buffer of a point, line, or polygon on the map to restrict the results within that spatial extent.

In the results shown in the following two graphics, a Spatial Filter is added to show only the results of the Attribute Filter in a certain area.



To Save Query Results:



The results of a query may be viewed and saved in Microsoft Excel. After running a query, click on the Copy to Clipboard tab on the top right corner of the widget. An attribute table will generate. Click on the Copy to Clipboard button. The table can now be pasted into Microsoft Excel and saved on the user's computer.

KML services

When the user needs to add data to MedMap to use dynamic feeds this is one place they may find data in addition to the Add Services tool. With this tool the user is able to add KML (Keyhole Markup Language from Google) data to their map display. There are two options, one is to have the KML file locally on the client PC and the system needs to be pointed to this file in order to display the data of the data may be loaded into the MedMap application. Both of these options work the same with one significant difference, the option of loading the file from the client must be done for each user and at every session of MedMap. The option of having the file loaded into the MedMap application will allow all users with access to this tool the ability to use this file and view the same data at the same time. This option is the most favored amongst the users of MedMap. Please send the KML files to MedMap@hhs.gov to request the file be loaded into the system. Depending on the file and the current workload of the MedMap staff this file may be loaded within 2 business days or potentially sooner.

Loading the file from the client

If you are in possession of a KML file that you want to display in MedMap for just your use you may use this tool to load this data. You must fill in the Name filed at the top of the tool with a name that you want to see in the My Layers tool for this data. Then you will need to supply the link from the webpage where the data is not the link from your client. The simplest way to do this is to copy the shortcut from the webpage by using the right click function on the mouse on the link for the KML and then pasting this in the KML location field on the tool. Then you can press the Load KML button and the data will appear at the owner of the data intended. You may need to go to your My Layers tool to turn on/off some layers to get to the data you wish to see in the viewer as seen in the image above.

To Use the data pre-loaded in MedMap

If you look through the list and the data you wish to display is already in the list, then just select the data and press the Load KML button and the data will display in the viewer. This can be a great addition to your data and add significant situational awareness to the area you are viewing.

NOTE: The data displayed via the KML link will NOT be displayed in the dynamic legend as the tool is not able to see the data. The data for this type of data is stored at the source and not on the MedMap system.

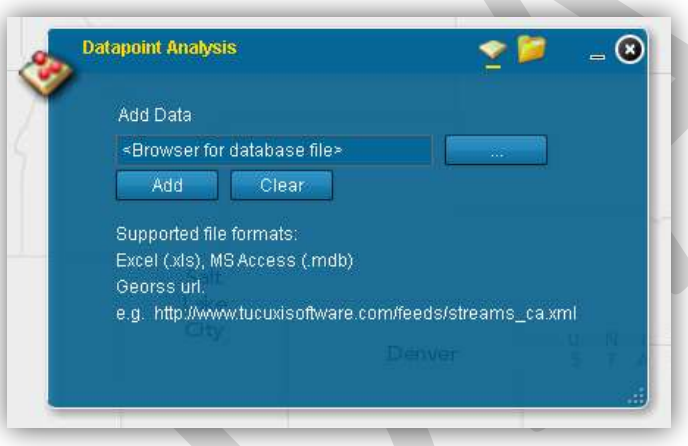
Virtual USA (vUSA)

This tool is provided to MedMap from the S&T folks at DHS. This tool allows the user to view data provided to the vUSA team/library through MedMap. This data is provided in many formats and updated at many different timeframes ranging from streaming links to static data updated annually or even one time loads. Please use this data with extreme caution and how the data was intended by the publisher.

In order to use the data from the vUSA tool the user will need to have an account provided to you by the manager of your agencies account for vUSA. With this account you will be able to log in and search through the available layers to gain access to data provided to DHS and the vUSA team.

Datapoint Analysis

When the need arises to load locally stored data that has location information stored within the data such as Lat/Long it is possible to load the data into MedMap by the local user and not to send the data to the MedMap staff. The method to complete this task is to open the Datapoint Analysis tool and press the button with the "…" on it. From here you will need to browse to the location of the file and load it into MedMap. The system will determine if the data can be plotted based on the fields required. If this is possible the system will plot the data into your session of MedMap and allow you to choose how you will view the data. It can be done in 3 different ways; Points, Clusters and HeatMap. Each of these will allow the user to view the data in a way that might tell a different story with the data so make sure you are getting the correct point across when viewing your data.



NOTE: This data cannot be viewed by another user within MedMap unless they also have the data and follow the same process. If you want the data to become available to all or some of the users of MedMap you will need to send your data to the MedMap support team (MedMap@hhs.gov) and they will need to process the data and then load and publish this data to the group of users that was specified by the data owner.

The **Datapoint Analysis** tool allows the user to upload files and add other data layers to visualize and query on the map. Visualization can be achieved in the form of pushpins, clusters of points, and heat maps. Currently, the datapoint analysis is restricted to use 1000 points at a time for better performance.

Content types

The following are the types of content that can be uploaded to the Datapoint Analysis tool. This tool allows users to upload files with latitudes and longitude's such as:

- Access
- Excel
- DBF

As well as services such as:

- ArcGIS Server
- ArcIMS
- WMS

As well as feeds including:

- GeoRSS

Visualizing pushpins

The primary method of viewing the data is in the form of **Pushpins**. The color and transparency of the pushpins can be altered for better visualization. Hovering over a feature shows the latitude and longitude for the data and clicking the feature will show an attribute table.

Clustering points

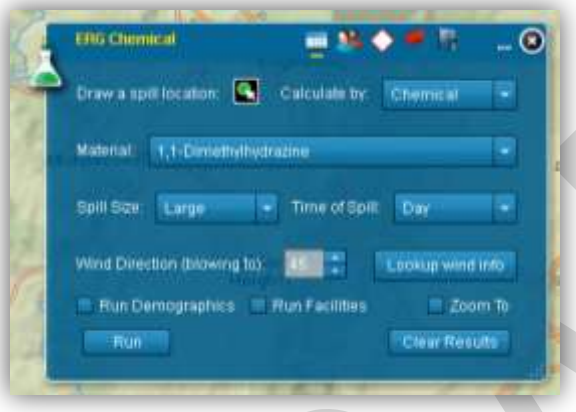
The pushpins can also be shown as a **Cluste**r of points, especially for those areas where there may be many points. As you change geography (i.e. zoom in or zoom out) the clustering changes based on the total number of points that can be displayed without clustering. Hovering over a cluster spreads out the total number of features that have been clustered. After a cluster has been spread out, individual features may be clicked to show an attribute table.

Heat Maps

Another visualization method for density is the **Heat Map**. Based on the count of the points and their distances, the heat maps are generated to visualize the locations where density is the highest. The **Transparency**, **Radius**, and **Colors** can be adjusted for the heat maps for effective visualization.

ERG Chemical – COMING SOON

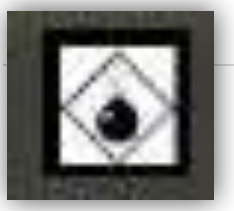
The ERG Chemical tool allows the users to calculate a spill area based on the Material, Spill Size, Wind Direction and Angle and Time of Spill. The user selects the spill area on the map after preselecting the characteristics of the spill. The tool helps the user calculate first responder "keep out" areas pertaining to HAZMAT events.



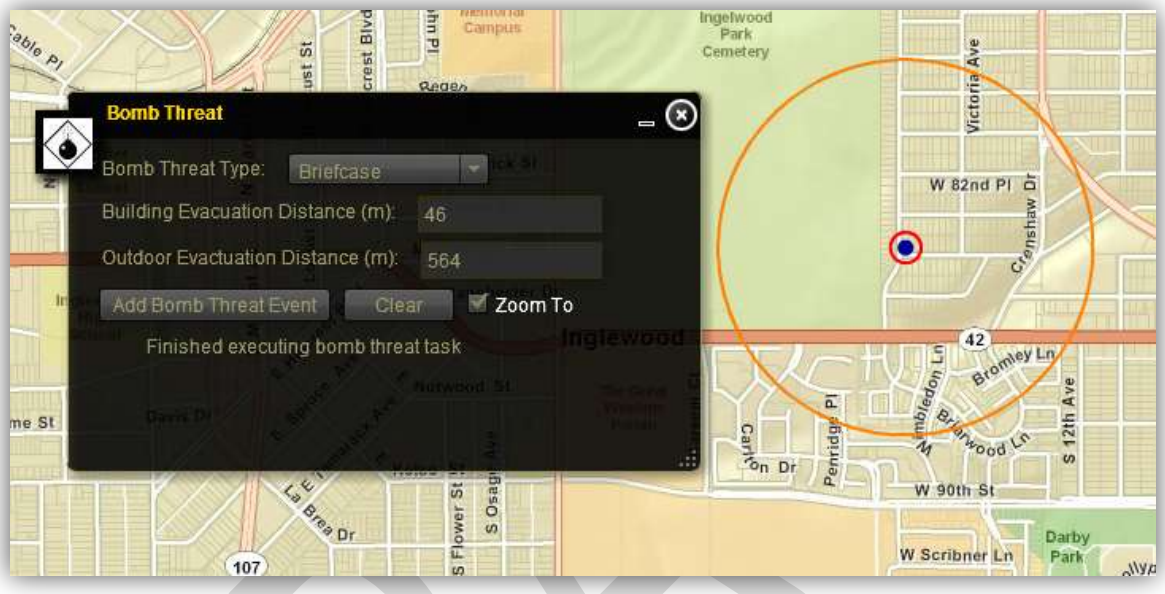
The ERG results can be added to My Layers if the Add Graphics button is turned on.

Bomb Threat

This tool is modeled after the National Counter-Terrorism Center's bomb threat stand-off distances table. This generates recommended building and outdoor evacuation distances based on threat description and explosive capacity.



Users can select the Bomb Threat Type which auto generates the building and outdoor evacuation distances. Users can then click on the Add Bomb Threat Event button and add that event to the correct location on the map. A buffer zone is created on the map with the generated distances to give an idea of which area needs to be cleared. Users may use the Zoom To function to make the *MedMap* interface focus on the bomb threat event area.



The Bomb Threat results can be added to My Layers if the Add Graphics button is turned on.

MedMap Concepts – Updates still pending

Roles

MedMap users, data and tools are assigned roles within the application by the administrator. The assigned roles designate access to data layers and tools for each user. If you have seen a tool or dataset that you do not have access to in your session please contact the MedMap staff (MedMap@hhs.gov) and request access to this item. Approval of the data owner or access to the tool will need to be granted before access will be permitted. These

5.1.1 Major Roles

MedMap major roles are categorized into the following: Public, HSIP, Response, and Exercise.

(a) Public

All users are in the public role. This role contains all data that has no restrictions for use.

(b) HSIP

Access to this role is based on signed use agreement. Users in this role are either a government employee or contractor.

(c) Response

Any users involved in ESF#8 response coordination are assigned this role.

(d) Exercise

Users in need of seeing data prior to or during the execution of an exercise will be assigned this role.

5.1.2. Tier Roles

First tier data and tool roles are categorized into the following: Federal, DoD/Military, State and Local.

(a) Federal

All users who have a .gov e-mail address or are currently working under a federal contract will be assigned the federal role. Federal contractors have a fixed lock out date, based on their contract, and will be verified every 6 months. Further, there are tiers for different federal agencies (2nd tier) and departments (3rd tier). Some data layers may be restricted to usage by certain departments within an agency.

(b) DoD/Military

All users with a .mil e-mail address or who are working under a military contract will be assigned the DoD/Military role. This role is further categorized by functional units (2nd tier). For example, NorthCOM, SouthCOM, US Surgeon General, etc.

(c) State and Local

Regional Emergency Coordinators may submit a list of no more than 10 persons from each state to become a pre-approved ***MedMap*** user. The pre-approved ***MedMap*** users may then apply for an account and will be verified with the REC list. Each state is separated into their own tier.